

GOVDOC

BRA

3957

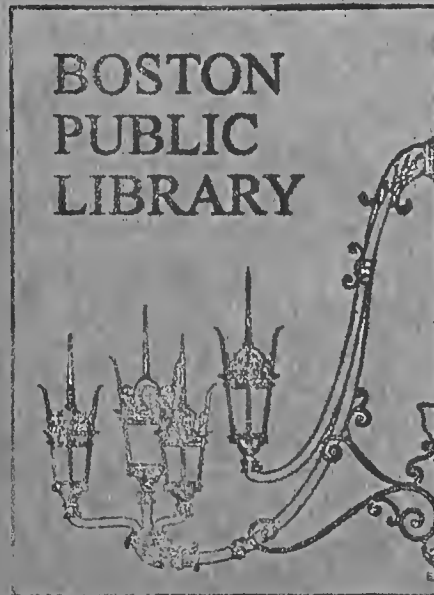
BOSTON PUBLIC LIBRARY



3 9999 06584 183 3

BOSTON REDEVELOPMENT AUTHORITY
planning department

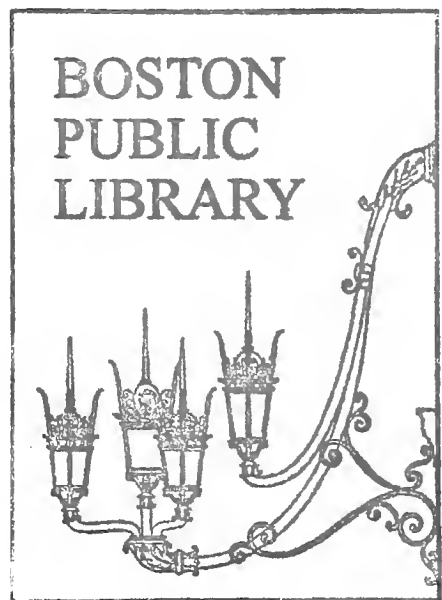
Property of
BOSTON REDEVELOPMENT AUTHORITY
Library



HIGH SCHOOL ENROLLMENT PROJECTIONS 1970-74, 1980

I (20)

20



HIGH SCHOOL ENROLLMENT PROJECTIONS 1970-74, 1980

ADVANCED PLANNING DIVISION

MAY, 1970



TABLE OF CONTENTS

	<u>Page</u>
I. INTRODUCTION	1
<u>Background of Study</u>	1
<u>Current High School Enrollment</u>	1
II. SUMMARY OF PROCEDURES AND FINDINGS	4
<u>Procedures</u>	4
<u>Findings</u>	5
<u>Tables</u>	6
Summary of 9-12 Grade Enrollment Projections, 1970-74, 1980	
Preliminary Estimates of Additional Seat Requirements, 1970-74, 1980	
III. ASSUMPTIONS.	7
IV. DETAILED METHODOLOGY	11
<u>1980 Methodology</u>	11
1. Birth Population Statistics	11
2. Death Rates.	12
3. Net Migration.	13
a. Pre-School Migration.	13
b. School-Age Migration.	15
4. Parochial Schools.	18
5. Dropouts	19
<u>1970-75 Methodology</u>	20
<u>Table</u>	22
Summary of Calculations, 9-12 Grade High School Enrollment Projections, 1970-74	

Digitized by the Internet Archive
in 2011 with funding from
Boston Public Library

<http://www.archive.org/details/highschoolenroll00bost>

TABLE OF CONTENTS, continued

	<u>Page</u>
V. ANALYSIS OF FINDINGS	23
VI. EFFECTS OF TRENDS ON PROJECTIONS	25
<u>Parochial School Closings</u>	25
<u>Special Educational Programs</u>	27
<u>Development and Educational Policies</u>	31

CREDITS

APPENDIX A

Principal's Monthly Report to the Superintendent

APPENDIX B

Table 1:

Births in Boston

Table 2:

Birth Rate in Boston

Table 3:

Total Enrollment in Grade One

APPENDIX C

SOURCES

1000

1000

1000

1000

1000

I. INTRODUCTION

Background of Study

At the request of the Public Facilities Department and with the cooperation of the Educational Planning Center, the Planning Department of the Boston Redevelopment Authority and Educational Planning Associates, Inc. are preparing a study of high school needs in Boston. As the first part of this study, the Authority has undertaken the task of developing high school enrollment projections for each of the years, 1970-74 and 1980. The following report summarizes the projection procedures and findings, describes the methodology in detail, and analyzes the projections and the potential impact of educational trends on the projections. Later reports by both EPA and BRA will address themselves to an inventory and evaluation of existing high schools, present plans related to new construction, rehabilitation and new programs, recommendations regarding high school needs, and sources of funding for proposed facilities.

Current High School Enrollment

The number of students currently housed in city high schools totals 20,659 students. When compared with the report's enrollment projections, however, this figure is somewhat misleading for two reasons. First, it includes 1,224 students from the two Latin schools who are actually enrolled in grades 7 and 8 but who are housed in the Latin school buildings. These students are not included in our high school enrollment projections. Second, the enrollment figure includes only 2,871 of

the City's 6,746 9th grade students - i.e. those who are presently housed in high school buildings - while excluding 3,875 9th grade students who are now provided for in junior high schools. As explained in detail below, this report's enrollment projections are concerned with the total number of pupils in grades 9-12 for each of the projection years.

It should also be noted, when comparing the enrollment projections with existing statistics, that the current high school enrollment of 20,659 exceeds the Sargent Report's¹ capacity ratings for the high school buildings by over 600 students. Furthermore, given the changes in curriculum and teaching techniques that have occurred in the eight years since the report's publication, it is expected that the inventory of facilities planned as part of this study will result in a decrease in the rated capacities at the high schools and will show that overcrowding is more severe than the Sargent figures indicate.

Because of the above factors, then, any comparisons of the 1970-1974 and 1980 projections with current enrollments must be carefully evaluated. Additionally, it should be understood that the projections developed in this study include all 9-12 grade

1 Boston Schools - 1962, A Report on the Schools of Boston,
May, 1962. (Sargent Report)

12. 0.1 - 0.32
10. 0.1 - 0.32

students throughout the public school system. This aggregation of student enrollment was based on the continuing School Department policy and program of moving towards a four-year high school system. Such a policy would require that all ninth graders be provided for in the high school buildings. Since it is unclear precisely when all ninth grade students will be housed in high school buildings, these students are accounted for in each of the projection years beginning with 1970.

The rapid increase in the number of students enrolled in grades 9-12 (over 600 in the past year alone) has made it obvious that the planned facilities must provide for more than only the present overcrowded situation. In order to provide for longer range needs due to possible enrollment increases and expected new teaching techniques, projection of 9-12 grade enrollments for 1970-1974 and 1980 were developed.

II. SUMMARY OF PROCEDURES AND FINDINGS

Procedures

Since there are significant gaps in available school data and since the 1960 census data are now outdated, it was necessary to make certain basic assumptions before calculating the enrollment projections. In general, these assumptions are concerned with population trends, the character and effect of new educational programs and physical plants, migration patterns and the distribution of children between public and parochial schools. While the assumptions upon which the projections are based are optimistic, it was felt that a combination of expanded educational and social programs, new housing, renewal and Model Cities programs, and the city's effort to increase job availability encourage such optimism. A more detailed description of these assumptions appears in Section III of this report.

Based on these assumptions, several variables were then used to determine the number of students who would be enrolled in grades 9-12 in the projection years 1970-74 and 1980. The base used in calculating the 1980 projections, was the total number of births to Boston residents during the period 1963-66. For the 1970-74 projections, statistics were available on children presently enrolled in the public school system for each appropriate year. Adjustments to the total number of potential students for each of the projection years were then made using the following variables: death rates,

pre-school and school age migration, parochial school enrollments, and drop-out rates. Because of the shorter time period relative to the 1970-74 projections, certain exceptions to the basic methodology used in determining the 1980 projections were required. A detailed discussion of the methodology used in determining the 1980 and 1970-74 projections follows in Section IV of this report.

Findings

Based upon the variables and assumptions discussed above, it was determined that the 9-12 grade enrollment in 1974 would approximate 26,000 students while the 1980 enrollment would approximate 28,800 students. Given the conditions of comparison outlined in Section I, this constitutes an increase of approximately 5,300 students by 1974 and approximately 8,100 students by 1980.

Based on the Sargent Report's capacity estimates, such an increase in enrollment would mean that if these students are to be housed in high school buildings, an additional 8,800 seats will be required by 1980. The capacity estimate planned as part of the facility inventory, which is the next step in the study, will undoubtedly indicate that because of current use patterns and the introduction of new teaching techniques, an even larger number of additional seats will be required.

The following tables summarize projected 9-12 grade enrollments for 1970-74 and 1980, and estimate the additional seats needed for grades 9-12 based on the Sargent Report capacities. Adjustments to these preliminary estimates will be made based on the inventory of facilities now under way.

SUMMARY OF 9-12 GRADE ENROLLMENT PROJECTIONS, 1970-74, 1980

	<u>1970-71</u>	<u>1971-72</u>	<u>1972-73</u>	<u>1973-74</u>	<u>1974-75</u>	<u>1980-81</u>
Total Students Expected in September	22,815	23,101	23,377	24,416	25,992	28,740

PRELIMINARY ESTIMATES OF ADDITIONAL SEAT REQUIREMENTS
FOR GRADES 9-12, 1970-74, 1980

	<u>1970-71</u>	<u>1971-72</u>	<u>1972-73</u>	<u>1973-74</u>	<u>1974-75</u>	<u>1980-81</u>
Total Students Expected in September	22,815	23,101	23,377	24,416	25,992	28,740
Present Capacity ¹	19,995	19,995	19,995	19,995	19,995	19,995
Seats Needed ²	2,820	3,106	3,382	4,421	5,997	8,745
Incremental Needs ³	2,820	286	276	1,039	1,576	2,748

1. Capacity statistics will be revised when current facility evaluations are completed.
2. Seats needed if previous year needs are not met. The large initial increase is a result of the inclusion of all ninth grade students beginning with the 1970 projections.
3. Needs to be met each year.

III. ASSUMPTIONS

As mentioned previously, in order to offset gaps in available data, it was necessary to make certain assumptions concerning trends in population movement and in educational and urban programs. These assumptions are detailed below:

- (1) There will be a city-wide system of four-year high schools in 1980 (and for statistical purposes all 9th grades have been incorporated into the projection figures as of the school year 1970-71).
- (2) Children born during the 1963-1966 period will be attending high school in 1980. (The children born during the 1963-1966 period are the graduating classes of June, 1981, 1982, 1983, and 1984.) Based upon this assumption and the assumption described in #1 above, the base used for calculating the projected high school population for 1980 is the number of births to Boston residents during 1963-1966.²
- (3) The quality of both the physical plant and the variety of curricula and educational programs offered in the Boston public high school system will improve during the 1970-1980 period.
- (4) Because of an expected improvement in the overall quality and appeal

² Statistics available from the City of Boston's Registry Department and from Annual Reports of the Boston Health Department, 1963-1966.

of both educational programs and social services, and because of additional emphasis being placed upon the importance of education, the drop-out rate will gradually fall from its present rate of 11% in the high schools to a low of approximately 5.5% in 1980.

(5) The City's population has stabilized (from its previous period of decline) and continued efforts for broader and improved educational programs, improved housing and general living conditions will encourage the continuation of this stabilization. (The 1970's should continue to follow the general stability trends of the late 1960's rather than revert to the large scale out-migration of the early 1960's.)

(6) Migration to Boston from outside of Massachusetts (i.e. from Southern states) will begin to decline. Based upon this assumption and the assumption described in #5, it was determined that in-migration of high school students to Boston from outside of Massachusetts will approximate one half of the total in-migration of high school students to Boston from within the state.

(7) Net out-migration of pre-school children (ie. Children leaving the City before entering Grade 1) will level off at an average of 21% for each of the years 1963-1966. This assumption was made by comparing the percentage of out-migration in 1968 and 1969, and by averaging the out-migration figures for these two sample years. This assumption is based on data for only two years because statistics by

grade were not recorded prior to 1967 and because 1968 and 1969 are the only years in which reliable data are available³ (See the methodology for a detailed description).

(8) School-age migration (in-migration, out-migration and transfers within the school system) will continue to follow the trends indicated by aggregation of data for two years: 1965-66 and the most recent year 1968-69. The year 1965-66 was chosen because it was a State Census year and because it was the middle of the decade while 1968-69 was chosen because it is the most recent year for which data are available. The data used to determine school-age migration are not the same type of data used in determining the previous assumption (i.e. it is not available by grade) and because of the complexity of the aggregation process, the statistics were aggregated for only 2 years.⁴

(9) Ninety-two percent of the students who are categorized by the School Department as transfers from private schools to the public

3 Statistics on public school enrollment available from Boston School System report, "Distribution of White and Non-White pupils by Grade Level, October 1, 1969".

Statistics on enrollment of Boston students in parochial schools available from the Statistics Division of the Boston School Department.

4 Statistics available from Principal's Monthly Report to the Superintendent shown as Exhibit A of this report, Statistics Division of the School Department.

schools come from parochial schools. Therefore, it was determined that transfers to Boston public schools from private non-parochial schools would be negligible and were not considered.

(10) It is further assumed that the present distribution between — public and parochial elementary school enrollment (i.e. children enrolled in the early grades) will remain constant, while some students will continue to transfer to the public school system at the junior and senior high school levels.

IV. DETAILED METHODOLOGY

The following pages describe in detail the variables considered and the calculations made in determining 1970-74 and 1980 enrollment projections. The methodology used for the 1980 projections served as the basis for the 1970-74 projections; it is therefore detailed first. Exceptions from the 1980 methodology which were used in determining the 1970-74 projections are explained in the second part of this section.

1980 High School Enrollment Projections

(1) Birth Population Statistics

As indicated earlier in this report, the base used for calculating high school projections for 1980 is total births to Boston residents during the period 1963-1966. Table 1 of Appendix B lists these births as recorded by the Boston Health Department. All children born to Boston residents are counted regardless of the place of birth.

(For example, if a Boston resident gives birth at a Cambridge hospital the birth is recorded by the Boston Health Department.) Of particular interest is the decline in the number of total city births and the fact that no area of the City showed a substantial birth rate increase. Also of interest is the fact that, as shown in Table II of Appendix B, the overall birth rate itself has been declining, although there have been some fluctuations in this rate in various areas of the City.

When all of the births for this 1963-1966 period were added together the total number recorded is 53,485. If there were no deaths

and there were no inflow or outflow of population to or from the City of Boston, this number would indicate the total number of potential high school students in Boston in 1980. As indicated earlier, however, there are several other variables which may account for increases or decreases in the total 1980 high school enrollment, and they must be investigated to determine their significance on these enrollment figures.

(2) Death Rates

A portion of the children born during the 1963-1966 period will die before reaching high school and a smaller number of them will die while they are attending high school. The largest number of deaths occur during the first year of infancy. Statistics obtained from the Boston Health Department indicate that the total number of deaths recorded for the under 1 year of age category for the entire 4 year period (1963-1966) was 1,330. For the next four age categories, as designated by the Health Department, 1-4, 5-9, 10-14, 15-19, it was necessary to calculate an average death rate. These averages are 6.4, 4.8, 2.3, and 4.0 per 1000 children in each of the above age categories. (The 4.0 per 1000 rate in the 15-19 age category was applied, however, only to high school students between the ages of 15 and 17.) By multiplying each of these rates by the number of survivors in each age category for each year, it was determined that 3,078 of the children who would be enrolled in high school in 1980 will die before that year. By adding the total number of deaths from these four age categories to

the total number of deaths which are recorded for the under 1 year of age category, it was determined that the number of children born during the 1963-66 period who will die is 4,408. The total number of high school children in 1980 is thus decreased to 49,077. (53,485 - 4,408)

(3) Net Migration

Net migration is determined through calculations made for pre-school and school age children. For pre-school children, it was necessary to calculate an index of migration from data available on births and first grade populations. For school children, available statistics were obtained from the Statistics Department of the Boston School Department. These School Department statistics do not, however, contain the exact information needed for such calculations and it was necessary to make certain assumptions as described earlier in this report.

a. Pre-School Migration

Because there are no available data on migration patterns for the pre-school age group, it was necessary to use an approximate factor of migration. In order to obtain this migration figure, the total number of children who survived the early death rates was compared with the total number of children enrolled in Grade 1 of the Boston public and parochial school systems during each of the appropriate years 1968-1969. (It is assumed that the children born in 1962 were enrolled in Grade 1 in 1968 and that the children born in 1963 were

enrolled in Grade 1 in 1969.) The reason for using data for only two years is that statistics by grade were not recorded prior to 1967. The statistics recorded for 1967 were not included, however, because calculations indicate that out-migration during that year was dramatically higher than out-migration in either 1968 or 1969 and it was felt that the migration factor did not provide an accurate picture of the developing trend for several reasons. (The most probable reason for its occurrence was that in 1967 the entrance age for first grade was changed from $5\frac{1}{2}$ to 6 years, thus forcing many children who previously would have been eligible to attend first grade in 1967 to wait until 1968. A second reason might be that large scale out-migration caused by the urban renewal processes had not been stemmed entirely in 1967 whereas by 1968 and 1969 this outward trend had slowed considerably.)

The results of comparing the total who survive through the pre-school years with the total enrolled in Grade 1 for the sample years are as follows: 77% of those born in 1962 were enrolled in Grade 1 in 1968; and 82% of those born in 1963 were enrolled in Grade 1 in 1969. By subtracting these percentages from 100%, a factor of out-migration is obtained. For 1968 this factor of out-migration equaled 23%, implying that 23% of those who were born in 1962 and who had survived to first grade left the city before entering Grade 1 in 1968. In 1969, similar out-migration totaled only 18%. (See Table 3 of Appendix B).

It was determined that the most reasonable estimate of migration for 1980 high school classes could be obtained by averaging the figures from the two sample years. Thus the average total surviving to total enrolled would be 79% and by subtracting this percentage from 100%, the resulting out-migration factor would be 21%. In other words, approximately 21% of the total number of surviving children who were born in each year of the 1963-1966 period will have left the city before entering Grade 1. The total number of children who die during the pre-school period is 3,333 and these children are subtracted from the total number of children born. The out-migration factor (21% of 53,485 - 3,333) thus decreases the potential 1980 high school population to 38,545 (49,077 - 21% of (53,485 - 3,333)).

b. School-Age Migration

A second type of migration factor focuses on migratory patterns during school enrollment years. In analyzing these patterns three major variables were considered: transfers of children within the Boston public school system, transfers between city and suburban schools, and transfers to and from schools in states other than Massachusetts. The significance of student transfers within the Boston public school system is minor because these transfers do not represent any net addition of students to the Boston school system. Transfers to and from private schools are, however, a different concern and are discussed under parochial school enrollment.

Exhibit A of Appendix A illustrates the type of information recorded on transfers by the Boston School Department. Item 2 of this record accounts for transfers between schools within the Boston school system while item 3 refers to transfers to the Boston school system from other schools in the state outside of Boston. Neither of these categories, however, records in-migration of students from states outside of Massachusetts.

From these School Department records, it was determined that the students who transfer from schools within Massachusetts to public schools in Boston (i.e. the suburban-city movement) now totals and will approximate 1,800 students per graduating class during the period from 1970-1980 when each graduating class will proceed through the elementary and junior high schools. Therefore, it is expected that the total enrollment increase due to in-migration for the four classes in high school in 1980 will equal $4 \times 1,800$ or 7,200 students. As a result of — assumptions #5 and #6 as outlined earlier in this report (i.e. that this in-migration of students from schools outside of Massachusetts will equal one-half of the migration of students to Boston from within the State), the number of students who are admitted to the Boston public school system from outside the state of Massachusetts will total 3,600 in this same period.

The third variable which must be considered is Boston's internal public school transfers. These transfers average 8,000 students per year in the elementary and junior high schools. While transfers are

not a net addition to our calculations, they require consideration because the School Department's only accounting of discharged students includes these transfers.

It is necessary to include the internal transfers in the "admitted" as well as "discharged" category so that they will be cancelled in the calculation to determine the difference, or "net" migration. (The internal transfers in the discharged category are the next consideration.) Therefore, for the purposes of calculating the net migration, it is assumed that the existing average will continue and that such transfers will statistically add 8,000 students per graduating class or 32,000 for the four graduating classes as they proceed through the elementary and junior high school system.

The total number of students admitted to the four graduating classes as a result of these three basic transfer variables is approximately 43,000. (7,200 students from schools within the state, 3,600 students from schools outside of Massachusetts, and 32,000 internal student transfers.)

The next consideration concerns discharged students and the relationship of the transfer variables to these discharged students. Students who are discharged from the public school system as a result of internal transfers or transfers out of Boston are accounted for in item 8 in Exhibit A. Since transfers are included in this category of discharged students, it was necessary as described above, to add Boston internal transfers to the admitted students analysis. The average

number of transfer students (item 8) included in the discharged students category for the sample years is 10,700 students. This would represent a total of 43,000 students for the four high school classes.

By subtracting the total number of students discharged from the total number of students admitted, a measure of net migration is obtained. (Boston internal transfers should balance.) These calculations indicate a balanced net migration, implying that the net in-migration will equal the net out-migration in the 1970-1980 period for the four high school graduating classes. As a result of this balanced school-age migration, there is no change from this variable in the 1980 high school enrollment. Thus the number of students enrolled in high school in 1980 remains at the level of the previous calculation, 38,545.

(4) Parochial Schools

Statistics indicate that approximately 20% of all children born to Boston residents and who survive the pre-school years enter parochial schools in the first grade. This percentage was determined by the data in Table 3 of Appendix B. As #10 of the assumptions outlined earlier in the report indicates, this initial distribution will remain constant during the subsequent 10 year period. Parochial school enrollments will result then in a decrease in the 1980 public high school enrollment to 28,515 students. (38,545 - 20% of 50,152)

In junior and senior high schools, however, statistics show a decline in enrollment of Boston residents in Boston parochial schools.

The Boston public school system has accounted for this increase by recording an increasing number of transfers from private schools. (See #9 of the assumptions outlined above.)

Analysis of the years 1965 and 1968 indicates that this trend in student transfers will continue. Between those two years an average of 862 students per year transferred to the Boston public schools. We expect that an average of 100 students will join each high school graduating class in junior high while an additional 750 students will join each graduating class in high school. Thus, the total number of student transfers for the four graduating classes is 3,400. This addition will increase the 1980 high school population to 31,915. (28,515 + 3,400)

(5) Dropouts

The present dropout rate has been estimated to be 11% in Boston's high schools and 4% in its junior high schools. These estimates were determined by averaging the almost identical dropout rates calculated for the state census year 1965-66 and the most recent year for which data is available 1968-69. As indicated in assumption #4 (page 7), these rates are expected to decline 50% by 1980 to 5.5% in the high schools and to 2% in the junior high schools. Thus, as the four graduating classes proceed through the junior high school grades, they can expect to lose 2%

of their numbers each year as a result of dropouts. Similarly, as they proceed through the high school years they will lose 5.5% each year. The 5.5% rate was applied to each graduating class enrollment for grade 10 and above. The 2% rate was applied to the ninth grade enrollment figures because ninth graders had been included in the 1965-66 and 1968-69 junior high school dropout rates. These calculations reduce the 1980 Boston high school enrollment to a final total of 28,740.

1970-1974 High School Enrollment Projections

Although the 1970-74 projections are based on the same assumptions and methodology as the 1980 projections, due to the shorter time period more firm data were available which eliminated the need for some of the assumptions and procedures. These exceptions to the 1980 methodology are noted below:

- (1) Instead of births, children presently enrolled in the public school system were used as the base. The exact enrollment figures are outlined in the following Table. As a result of starting with presently enrolled students, it was not necessary to calculate pre-school migration or the expected initial public elementary school losses which occur through enrollment of students in parochial elementary schools.
- (2) Deaths were considered negligible in calculating the five year period statistics because the respective death rate is low. (The death rate for the 10-14 age category is 2 per 1000).

(3) Since good base figures were available for each grade, dropouts were determined by applying dropout rates to each graduating class as they proceeded through high school. The lower "junior high" dropout rate was applied through ninth **grade**, while the "high school" rate **was** applied to the upper year enrollment figures. Based on the assumption that dropout rates will decline by 50% by 1980, the rates applied were gradually reduced through the 1970-74 period. The exact rates used are shown in the following table.

SUMMARY OF CALCULATIONS

9-12 GRADE HIGH SCHOOL ENROLLMENT PROJECTIONS, 1970-74

	<u>1969-70¹</u>	<u>1970-71</u>	<u>1971-72</u>	<u>1972-73</u>	<u>1973-74</u>	<u>1974-75</u>
Class of 70	4,566					
Class of 71	5,171 (11) ²	4,602				
Class of 72	6,379 (11)	5,677 (11)	5,053			
Class of 73	6,746 (4)	6,477 (11)	5,765 (10)	5,189		
Class of 74	[5,426] (4)	5,202 (4)	5,001 (10)	4,501 (9)	4,096	
Class of 75		[5,814] ³ (4)	5,582 (3)	5,415 (9)	4,928 (8)	4,534
Class of 76			[5,898] (3)	5,722 (3)	5,551 (8)	5,107
Class of 77				[6,640] (3)	6,441 (3)	6,248
Class of 78					[6,910] (3)	6,703
<hr/>						
Dropout Subtotal		21,965	21,401	20,827	21,016	22,592
Parochial School Adjustment		850	1,700	2,550	3,400	3,400
<hr/>						
Total Students Expected in September		22,815	23,101	23,377	24,416	25,992

1. Figures in this column and in brackets are existing class enrollments which are used as the base for the calculations.
2. Number in parentheses are the applied dropout rates. In each case the percentage is multiplied by the enrollment in that column to determine the number of students in that class expected in the following September (column).
3. Numbers in brackets are not included in the year (column) total in which they appear. They are included to show how the following year class total was derived.

V. ANALYSIS OF FINDINGS

Because the 1980 projections indicate an increase of some 8,100 students in high school enrollment between now and 1980, it is important to analyze the factors which are expected to account for such increases.

The slightly decreasing trend in the total number of births have the effect of decreasing the 1980 enrollment potential. School-age in and out-migration is projected to be balanced during the projection period, and therefore, would have no effect on the enrollment potential. The three factors which account for almost all of the projected increase are: the addition of ninth grade students to the high school system; a projected decrease in the dropout rate; and a projected stabilization of pre-school out-migration by the 1981-84 graduating classes at a rate lower than that experienced by immediately preceding classes.

The largest single component of this 8,100 pupil increase in high school enrollments by 1980 is a result of the planned organizational change to a 5-3-4 (ie. elementary, middle and high school) public school system. As a result of this change, it is expected that over 4,000 additional ninth grade students will become part of the high school system by 1980.

The second factor is related to an assumed decrease in both the junior and senior high school dropout rates. A decrease in the dropout rate implies that more students will remain in the city's high schools after the age of 16 and will complete their high school program. A gradual decrease in the present dropout rate between now and 1980 would mean that an additional 2,000 students would remain in the school system and would be in the high schools in 1980.

A decrease in the pattern of pre-school out-migration accounts for the third major increase in the projected high school enrollment figures. If the average rate of the most recent years is maintained until all four projection graduating classes have reached the first grade in 1972, an increase of approximately 2,000 students can be expected in the high schools in 1980.

1000

1000

1000

1000

VI. EFFECTS OF TRENDS ON PROJECTIONS

It is obvious that a number of factors which were not included in the projection calculations have the potential of significantly affecting future school enrollments. Most important of these are parochial school closings and the future trends of the many special programs being instituted in the school system. While it is difficult to predict how such trends will develop, an attempt is made below to estimate the possible magnitude and general nature of their effect on school enrollments.

Parochial School Closings

As noted earlier, the above projections assume no drastic changes in the current parochial school situation. This assumption was made due to the uncertainties concerning potential school closings and possible new sources of funding which could keep the schools open. In addition, information is presently not available on the scope and timing of such potential closings and the nature of their impact. Because of these information gaps, it was felt that the inclusion of data based on such uncertainties would unduly complicate and weaken the reliability of the basic projections. However, since it is probable that some parochial school closings will take place, and since any large number of closings could have a significant effect on the public school system, some broad estimates of the scope of the impact have been attempted.

Since information related to such factors as migration patterns and dropout rates is unavailable for parochial school students, it was not possible to project the enrollments of the 1981-84 parochial high school graduating classes as they move through the school system. It was, therefore, necessary to base calculations on the total number of seats available in the City's parochial high schools. The Archdiocese indicates that there are presently 9,974 seats in Boston parochial high schools. Since some of these schools are operated by religious orders rather than geographically-based parishes, not all of the students attending these schools are Boston residents. The Boston School Department's Statistics Division has determined that 7,806 of the students enrolled in Boston parochial high schools in 1969 were Boston residents.

Since it is highly unlikely that there will be any significant number of new seats added to the parochial system, it can be assumed that if all the parochial high schools closed between now and 1980, there would be a potential high of 7,800 students to be added to the public high school system. Obviously, this figure serves only to indicate the full potential impact, showing, for example, that the projected 1980 enrollment increases in City high schools could be nearly doubled as a result of parochial high school closings.

An additional factor should be considered when attempting to determine the impact of parochial school closings. That factor is the probability that the parochial elementary schools will close at the same time and rate as high schools. The effect of these lower school closings will be to force a decision by many families regarding entry into public schools prior to the high school level. It is assumed that this prospect will result in some decisions to leave the City in search of better schools and it is felt that such decisions would somewhat diminish the potential impact of parochial high school closings on the public system.

Special Education Programs

A number of new programs which have the potential of affecting future enrollment, but which were not specifically considered in the basic projection methodology, are analyzed below. These include: the METCO inter-city bussing program, programs for non-English speaking children and special service programs for handicapped children.

(1) METCO

It is estimated that there are approximately 1,100 students in the METCO program; 300 in high schools, 200 in junior high schools and 600 in elementary schools. Approximately 650 of these students are recorded by the School Department as "transfers

from Boston schools to schools outside Boston" and have thus been included in the projections. The remaining 450 are unaccounted for in School Department records. However, since the portion of this number in the high school grades is probably under 150 students it was determined that their effect on the enrollment projections would be negligible.

Any change in the potential impact of this program on high school enrollments is hard to predict due to the uncertainties in its future. That future is dependent: on funding sources; on the enthusiasm of Boston students for the program; and on cooperation between the private METCO administration in Boston and the suburban school systems. Continued funding of the programs is dependent on the evaluation of its success by the participants. At this point that evaluation is mixed, at best. The enthusiasm for the program by Boston students is, in part, dependent on the quality of Boston schools. If the schools improve programs in their own neighborhoods, people will be less anxious to embark on such a significant bussing program. Any increase in the program would require not only participation by the METCO organization but cooperation and the provision of space by suburban school systems as well. Since many school systems are presently overcrowded, and since there has been little response to state subsidies for the construction of new facilities which include space for METCO students, prospects for significant expansion seem slim.

In general, since the number of high school participants is small and since the prospects for a large expansion of the program are uncertain, it is not anticipated to have a significant impact on the 1980 high school enrollment projections.

(2) Programs for Non-English Speaking Children

There are three programs presently operated by the Boston School Department for non-English speaking children. Two of these programs are directed at students currently enrolled in the school system - the "English as a Second Language" program which enrolls over 700 students for special instruction in English, and the federally-funded "Bilingual Language" program through which six classrooms have been set up for instruction in both English and Spanish.

The third program, which was set up earlier this year, sponsors classes for children who are not presently enrolled in school. These classes, called "Bilingual Transitional Clusters", provide temporary instruction in both English and Spanish with the objective of preparing students for final entrance into the school system. The program is presently authorized for 280 students with its future expansion dependent on its success in bringing new children into the school system.

The continued potential impact that these programs will have on future high school enrollments is related to the number of additional students which they can bring into and keep in the school system. There are no exact figures on the number of non-English speaking children who are not registered nor attending school, but it has been estimated that there may be as many as 3-5,000 unregistered Spanish speaking children who would constitute the major portion of the non-English speaking category. If these potential students could be brought into the system and kept in through the high school level, they would represent a potential of approximately 1,000 to 1,500 in additional high school enrollment. The uncertainty about future support and effectiveness of these programs, however, makes such an estimate very tentative.

(3) Special Service Programs

There are presently about 2,000 students who attend special education classes in the school system. These classes include programs for the educable retardates, sub-special students and children in job preparation classes. Since there are virtually no programs for the emotionally disturbed, no figures on the actual number of children in this category are available. It is estimated, however, that there are possibly as many in this category as there are attending special education classes.

New state regulations which will require special classrooms for the emotionally disturbed, plus anticipated improvements in the programs for retardates and for physically and emotionally handicapped children, could have an impact on high school enrollments. Presently, most of these students leave the school system before reaching the high school level. With improved programs, however, many might remain in school. Additionally, there are undoubtedly a substantial number of children in these categories who might enter if improved or expanded programs were available. As one offsetting factor, improvement in programs provided outside the school system could draw students away.

At the present time it is impossible to accurately estimate the impact of these programs on high school enrollment. However, the potential is sufficiently high that it should be kept in mind.

Development and Educational Policies

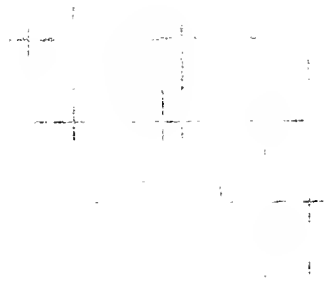
Finally, it is obvious that projections are only as good as the assumptions upon which they are based. This is particularly true when there are so many gaps in available data. As mentioned earlier, many of the basic assumptions made concerning the future of schools and the city are optimistic. They are based on the belief that continued and increased efforts will be made at improving educational programs and the general living conditions

in the City of Boston. If such efforts are not continued and expanded, it is possible that future school enrollments will be affected by a continued high dropout rate and increased out-migration. Thus, future school enrollments will be a function of development and education policies, projections not withstanding.

This study was prepared in the
Advanced Planning Division by:

Celeste Arden
Dale Coxe
Robert Lurcott

APPENDIX A



HIGH AND LATIN, JUNIOR
HIGH, SPECIAL AND ELE-
MENTARY SCHOOLS

	Pupil Attendance	F.K.	To-AL
High and Latin			
Junior High			
Elementary			
Kindergarten			
TOTALS			

	TARDINESS OF TEACHERS
Number of Cases of Tardiness During the Month	

FIRE DRILL

Has the Fire Drill Been Held This Month in all Buildings in Accordance with the Regulations of the

[illegible][illegible]

	Kg	K
12. No. of Pupils Belonging"		
17. No of Regular Teachers		
18. No of Temp Teachers		
19. Truancy		
20. Corporal Punishments		
21. Pupils Promoted		
22. Pupils not Promoted		

	(R)
DATES	M OF

APPENDIX A

BOSTON PUBLIC SCHOOLS

I. EXPLANATION OF REQUIREMENTS FOR ENROLMENT DATA. REVISED TO SEPTEMBER 1, 1967.

1. READMISSIONS AND OTHER DUPLICATE ENROLMENTS WITHIN THE DISTRICT.

This includes every pupil whose last previous enrolment during the current school year (September to June) was within the school district; or in the case of a high, or special school, was within that particular school.

2. FROM OTHER BOSTON PUBLIC SCHOOL DISTRICTS OR HIGH OR SPECIAL SCHOOLS.

This includes every pupil whose last previous enrolment during the current school year (September to June) was in another Boston Public School District; or in the case of a high, or special school, was in another Boston Public School of like grade.

3. FROM PUBLIC SCHOOLS IN THE STATE OUTSIDE OF BOSTON.

This includes every pupil whose last previous enrolment during the current school year (September to June) was in a public school in the State outside of Boston.

4. FROM PRIVATE SCHOOLS.

This includes every pupil whose last attendance was at a parochial or other private school anywhere.

5. ORIGINAL ENROLMENT FROM ALL OTHER SOURCES.

This includes all other regular enrolments. In September (and possibly in October) this number will be large, since under it will be found all the pupils, members of the school on the last day of June preceding who return for attendance, as well as all pupils, members of the school on the last day of June preceding who come, without actually attending, for their discharge to another Boston Public School District, or in the case of a high or special school, to a Boston Public School of like grade. (See E, F and G below, and directions immediately preceding.) Pupils who were members of public schools outside of Boston at the end of the preceding year, and who have not been enrolled in any other public school in the State during the current year, will also be enrolled under this item, as will pupils from all other sources not specifically mentioned above, including pupils entering Elementary School or High School for the first time (unless they come from private or parochial schools).

6. CONSTRUCTIVE ENROLMENT.

This is intended to show the number of pupils who have left the Public School System of Boston during the summer vacation. It is important that all such pupils be included under this item of enrolment, and discharged under the items that indicate their destinations. The enrolment and discharge of any such pupil, should be made on the same day.

TO THE PRINCIPAL.

In order to lessen the chance of error in the teacher's record it may be well to write in pencil in some designated place near the bottom of the Admission, Discharge and Promotion Card No. 1, and the Office Record Card No. 3, the number of the item under which each newly admitted pupil is to be enrolled.

7. TRANSFERRED WITHIN THE DISTRICT OR HIGH OR SPECIAL SCHOOL.

This includes all pupils transferred within the district or high or special school during the current school year. (Pupils promoted at the end of June are not reported as "transferred within the district" on the June Report. They are enrolled by the teacher to whom they are assigned in September under Item 5.)

8. TRANSFERRED TO ANY PUBLIC SCHOOL OUTSIDE OF THE DISTRICT, OR PUBLIC HIGH, OR SPECIAL SCHOOL OF SAME GRADE.

This refers to public schools in the City and outside of the City wherever located.

9. TRANSFERRED TO PRIVATE SCHOOL.

This refers to parochial and other private schools wherever located.

10. DISCHARGED TO WORK.

This includes all pupils, legally entitled to work, excepting graduates, who leave for the purpose of obtaining an employment or educational certificate.

11. DISCHARGED FOR ANY OTHER REASON.

This includes all destinations not specifically mentioned above.

C. TOTAL REGISTRATION FOR SCHOOL YEAR TO DATE.

This is the sum of Items 2, 3, 4 and 5 carried forward from month to month.

II. DIRECTIONS CONCERNING ENROLMENT.

A. No pupils are to be admitted or discharged after the Friday preceding the last school day in June. The number belonging on that day is to be carried over without change to the remaining days of the term. This number shows the status of the school as for the last day, graduates being included as belonging.

B. Promotions should be made in June and pupils should be assigned on the last day to the rooms they are to occupy in September, but reports are to be made as for the status of the pupils before promotion.

C. In the September report Item 12 is to be considered as zero, and a new enrolment account is to be started with the new school year.

D. Pupils newly entering the district, or high or special school are to be admitted under Items 2, 3, 4 or 5, according to the source from which they come.

The following directions E, F, G, H, and I, apply to pupils who belonged in the school on the first day of June preceding the September term:

E. Those who attend on the first school day in September are to be admitted under Item 5.

F. Those who return for attendance after the first day are to be admitted under Item 5.

G. Those who come without attending, for their discharge, to another Boston Public School District, or to another high or special school, are to be admitted under Item 5, and discharged under Item 8. All such pupils are to be admitted in the new school that they enter under Item 2. This includes pupils residing outside of the District who were members of primary schools in the District on the last day of June, and who, owing to entering Grade IV, are obliged to attend school in the District where they reside. They should be permitted in the school that they have been attending under Item 5, discharged under Item 8, and admitted in the new school under Item 2.

H. Those who come, without attending, for their discharge to destinations other than another Boston Public School District, or another high or special school, are to be admitted under Item 6, "CONSTRUCTIVE ENROLMENT," and discharged under the items that indicate their destinations.

I. Pupils who do not actually return at all should be accounted for according to directions in G and H, above, as if they had returned without attending. All whose destinations still remain in doubt at the end of October should be disposed of by being enrolled under Item 6 and discharged under Item 11.

III. DIRECTIONS CONCERNING PROMOTIONS.

The Regulations of the School Committee do not recognize distinction within the grades as, for example: 8A — 8B. Pupils in Grade VIII who are not graduated are "not promoted." Pupils who are not advanced from any grade to the next highest grade in order (1, 2, 3, 4, 5, 6, 7, 8) are "not promoted." Pupils from special and ungraded classes are "promoted" if their grade assignment constitutes a virtual advance in grade. Promotions and demotions at any other time than at the end of the year in June may be specially noted on a separate sheet, since it is the wish of a few principals that they be recorded in the Superintendent's Office. As a general practice, however, promotions should be made in June in accord with the spirit of the Regulations of the School Committee. Promotions during the year will be effect ordinarily by demotions in the totals for the city.

NOTE. — Graduates are not to be discharged on any monthly reports. Information concerning the number of graduates is obtained from the item covering that point on the Principal's Monthly Report.

APPENDIX B

TABLE 1

BIRTHS IN BOSTON

	<u>1963</u>	<u>1964</u>	<u>1965</u>	<u>1966</u>
<u>CITY TOTALS</u>	14,229	13,945	12,968	12,343
East Boston	837	733	692	692
Charlestown	358	396	346	311
North End	198	180	167	155
West End	126	147	131	137
Back Bay	436	385	390	360
South End	763	749	739	696
South Boston	924	876	797	730
N. Dorchester	2,932	2,950	2,838	2,649
S. Dorchester	1,441	1,543	1,371	1,270
Roxbury	2,235	2,086	1,787	1,762
Jamaica Plain	731	771	674	651
Roslindale	777	735	738	784
West Roxbury	445	487	433	486
Hyde Park	730	733	702	597
Brighton	1,296	1,174	1,163	1,063

10

11

12

13

14

15

16

17

18

TABLE 2

BIRTHRATE IN BOSTON/1000

	<u>1963</u>	<u>1964</u>	<u>1965</u>	<u>1966</u>
<u>CITY TOTALS</u>	20.2	24.0	18.8	18.7
East Boston	17.5	15.4	14.5	16.7
Charlestown	17.1	19.0	17.4	17.1
North End	12.9	11.7	11.2	13.7
West End	9.3	10.8	10.4	15.1
Back Bay	10.7	9.4	9.7	9.9
South End	21.9	22.6	23.7	25.6
South Boston	20.7	19.7	17.9	16.8
N. Dorchester	25.4	25.5	25.0	24.2
S. Dorchester	19.2	20.6	18.3	17.2
Roxbury	24.0	23.2	20.4	21.3
Jamaica Plain	20.4	21.6	18.8	18.2
Roslindale	18.4	17.4	17.5	18.6
West Roxbury	17.4	19.0	16.9	17.6
Hyde Park	21.5	21.6	20.7	16.6
Brighton	19.6	17.8	17.9	16.6

TABLE 3TOTAL ENROLLED IN GRADE ONE

	<u>1968</u>	<u>1969</u>
Parochial Grade 1	3,088	2,864
Public Grade 1	<u>7,777</u>	<u>8,746</u>
Total Enrolled	10,865	11,610

	<u>1962</u>	<u>1963</u>
Total Born	14,418	14,229
Total Dies in Pre-School Years	<u>428</u>	<u>387</u>
Total Surviving	13,990	13,842
Percentage of Total Enrolled to Total Surviving	77%	82%

APPENDIX C

100

100-447689-1

[illegible]

SOURCES

1. Black and White in Boston. Boston: United Community Services, 1968.
2. "Boston's Health." Boston: Boston Health Department, 1963, 1964, 1965, 1966.
3. "Distribution of White and Non-White Pupils by Grade Level." Boston: Boston School Department, October, 1969; January, 1969; January, 1968.
4. Parochial School statistics available from Mr. Charles Lynch, Statistics Division of the Boston School Department.
5. "Principal's Monthly Report to the Superintendent." Boston: Boston School Department. Statistics are kept monthly by school district by Mr. Charles Lynch, Statistics Division of the Boston School Department.
6. Sargent, Cyril. Boston Schools - 1962 A Report on the Schools of Boston. Boston: Boston Redevelopment Authority, 1962
7. Tauber, Karl E. and Alma F. Negroes in Cities; Residential Segregation and Neighborhood Change. Chicago: Aldine, 1965

